FIG. 1 (PRIOR ART)

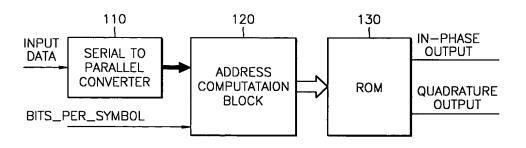


FIG. 2 (PRIOR ART)

1 •	• 0	7 • 0111	6 • 0110	• 2 0010	• 3 0011
01	00	5 • 0101	4 • 0100	• 0 0000	• 1 0001
		13 • 1101	12 • 1100	. • 8 1000	• 9 1001
3 • 11	• <sup>2</sup>	15 • 1111	14 <b>◆</b> 1110	• 10 1010	◆11 1011

MAQ-4 MAD-01 CONSTELLATION DATA <del>4</del> <del>5</del> က က ဖ ω g ADDRESS FIG. 3 (PRIOR ART) က ထ ADDRESS COMPUTATAION BLOCK INPUT DATA BITS\_PER \_SYMBOL 

FIG. 4A

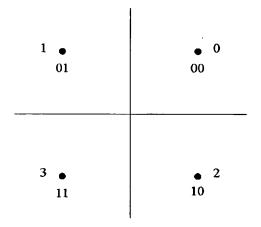


FIG. 4B

3 <b>(</b>	
2 •	• 0
010	000
6 <b>♦</b>	• 4
110	100
7 <b>•</b> 11	_

FIG. 4C

7	6 •	• <sup>2</sup> 0010	• 3
0111	0110		0011
5 •	4 •	• 0	• 1
0101	0100	0000	0001
13 •	12 •	• 8	• 9
1101	1100	1000	1001
15 <b>•</b> 1111	14 ◆	◆ 10	•11
	1110	1010	1011

## FIG. 4B

	10 <b>•</b> 01010	14 <b>●</b> 01110	● 6 00110	● 2 00010	
16 <b>●</b>	13 ●	12 <b>●</b>	● 4	• 5	• 7
01111	01101	01100	00100	00101	00111
11 <b>•</b> 01011	9 • 01001	8 <b>●</b> 01000	● 0 00000	● 1 00001	● 3 00011
27 •	25 •	24 <b>•</b>	● 16	● 17	• 19
11011	11001	11000	10000	10001	10011
31 <b>●</b>	29 <b>•</b> 11101	28 <b>●</b>	• 20	• 21	• 23
illl1		11100	10100	10101	10111
	26 <b>●</b> 11010	30 <b>●</b> 11110	● 22 10110	● 18 10010	

FIG. 4E

_	_	25 •	24 •		•	• 11 001011	
_	_	29 •	28 • 011100	_	•	• 15	•
_	•	21 •	_	• 4 000100	• 5	•	
_		17 •	16 •	000000	<b>●</b> 1	<b>3</b>	<u> </u>
_	_	49 •	•	<b>●</b> 32	•	<b>●</b> 35	•
	55 •	53 •	52 •		•	<b>●</b> 39	•
62	63.	61	60 🕳	• 44	<b>4</b> 5	<b>4</b> 7	<b>4</b> 6
111110	_	111101	_	101100	101101	101111	•

FIG. 4F

		44 🌑	45	61	60●	●28	€ 29	13	<b>●</b> 12		
		0101100	0101101	0111101	0111100	0011100	0011101	0001101	0001100		
		36	37	53 💮	52	●20	<b>2</b> 1	5	• 4		
		0100100	0100101	0110101	0110100	0010100	0010101	0000101	0000100		
55 🌑	54 🌑	50	51 🌑	49 🌑	48	●16	<b>1</b> 7	<b>1</b> 9	●18	22	23
0110111	0110110	0110010	0110011	0110001	0110000	0010000	0010001	0010011	0010010	0010110	0010111
63	62	58	59 🌑	57 🌑	56 ●	●24	<b>●</b> 25	<ul><li>27</li></ul>	●26	30	31
0[11][1	0111110	0111010	0111011	0111001	0111000	0011000	0011001	0011011	0011010	0011110	0011111
47	46	42	43	41	40 🌑	● 8	• 9	• 11	● 10	<ul><li>14</li></ul>	15
0101111	0101110	0101010	0101011	0101001	0101000	0001000	0001001	0001011	0001010	0001110	0001111
39	38	34	35	33	32	• 0	• 1	3	2	6	• 7
0100111	0100110	0100010	0100011	0100001	0100000	0000000	1000000	0000011	0000010	0000110	0000111
103 🌑	102	98 🌑	99	97 🌑	96	●64	● 65	<b>●</b> 67	<ul><li>66</li></ul>	<b>•</b> 70	71
1100111	1100110	1100010	1100011	1100001	1100000	1000000	1000001	1000011	1000010	1000110	1000111
111	110	106	107	105	104	●72	<b>1</b> 73	<b>•</b> 75	<ul><li>74</li></ul>	● 78	79
1101111	1101110	1101010	1101011	1101001	1101000	1001000	1001001	1001011	1001010	1001110	1001111
127	126	122	123	121	120 🌑	●88	● 89	91	<b>9</b> 90	94	95
1111111	1111110	1111010	1111011	1111001	1111000	1011000	1011001	1011011	1011010	1011110	1011111
119 🗨	118	114	115	113	112	●80	●81	● 83	● 82	● 86	● 87
1110111	1110110	1110010	1110011	1110001	1110000	1010000	1010001	1010011	1010010	1010110	1010111
		100	101	117	116	●84	● 85	● 69	<b>●</b> 68		
		1100100	1100101	1110101	1110100	1010100	1010101	1000101	1000100		
		108	109	125	124	●92	● 93	• 77	<b>7</b> 6		
		1101100	1101101	1111101	1111100	1011100	1011101	1001101	1001100		

FIG. 4G

100	101 <b>(</b>	103 <b>•</b>	102 <b>(</b>	98 <b>•</b>	99 •	97 <b>•</b>	96 <b>●</b>	● 32 an: comm	● 33 maxima	● 35	<b>● 34</b>	<b>● 38</b>	● 39 motomati	<b>●</b> 37	<b>● 36</b>
108 <b>-</b>	109	111 •	110	106	107	105 <b>•</b>	104 <b>(</b>	● 40 m:::mm	● 41 mitter	<b>43</b>	<b>●</b> 42	<b>●</b> 46	<b>●</b> 47	<b>●</b> 45	<b>●</b> 44
124 <b>•</b>	125	127 <b>•</b>	126	122 <b>6</b>	123 🌑	121 <b>(</b>	120	<b>●</b> 56	<b>●</b> 57	<b>●</b> 59	<b>●</b> 58	<b>●</b> 62	<b>●</b> 63	<b>●</b> 61	<b>●</b> 60
116	117 <b>(</b>	119 <b>•</b>	118	114	115 🌰	113 <b>(</b>	112	<b>●</b> 48	● 49 06110801	<b>●</b> 51	<b>●</b> 50	<b>●</b> 54	<b>5</b> 5 <b>6</b> 011 <b>8</b> 111	<b>5</b> 3	● 52 m:135M
84 🌑	85 <b>•</b>	87 <b>•</b>	86 •	82 <b>●</b>	83 •	81 <b>•</b>	61918000 80 <b>©</b>	● 16	● 17 ∞=10001	● 19	<b>●</b> 18	<b>22</b>	● 23	<b>●</b> 21	<b>●</b> 20
82 🌑	83 <b>•</b>	95 •	94 •	90 •	91 •	89 <b>•</b>	88 <b>•</b>	<b>●</b> 24	25 (M011801	• 27	<b>● 26</b>	● 30	● 31 •∞••••	29	● <sup>28</sup>
76 •	77 •	79 •	78 •	74	75 <b>•</b>	73 •	72 •	<b>■</b> 8	9	<b>1</b> 1	<b>●</b> 10	<b>● 14</b>	● 15	<b>● 13</b>	● 12 □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
68 <b>•</b>	69 •	71 • moonies	70 •	66 <b>(</b>	67 •	65	64 <b>•</b>	0 0000000	1 (MC) (MC)	3	● 2 POMMCD11	6 00000118	7	<b>5</b> 60000101	<b>●</b> 4
1196	197 <b>•</b>	199	198 <b>(1010</b> 11)	194 <b>(</b>	195 <b>(</b>	193 🌰	192	● 128 1800000	<b>●</b> 129	<b>●</b> 131	●130 10000113	<b>●</b> 134	<b>●</b> 135	<b>●</b> 133	●132 19000100
204 <b>(198</b> 228	205 <b>(</b>	207	206	202	203	201	200 <b>(</b>	● 136	● 137	● 139	●138 (000:019	<b>●</b> 142	● 143	● 141	●140 18861180
220	221	223	222	218	219 🌰	217 <b>•</b>	216	●152 ::::::::::::::::::::::::::::::::::::	● 153	<b>●</b> 155	<b>●</b> 154	<b>● 158</b>	● 159	<b>● 157</b>	● 156
212	213 •	215	214 <b>(</b>	210	211	209	208	● 144 stroom	● 145	<b>●</b> 147	●146 10010010	● 150 10010210	<b>●</b> 151	<b>●</b> 149	<b>●</b> 148
244	245	247	246	242	243	241	240	●176	■ 177	<b>■</b> 179	●178	●182	■ 183	<b>●</b> 181	●180
	11110101	mmn	(1) (0)10	10110010	1111601	1111000	11119009	181 19800	1811989	INC LINEAL I	100 (0010	103 16378	10(18)1	IDITION .	10110140
252	_	255	254 <b>•</b>			•	_	18110000 184				190 to 11116	•	•	1888 188
252	253	255	254	250	251	249	248	●184	<b>●</b> 185	<b>●</b> 187	<b>●</b> 186	● 190	191 191	1211EW. 189	<b>● 188</b>

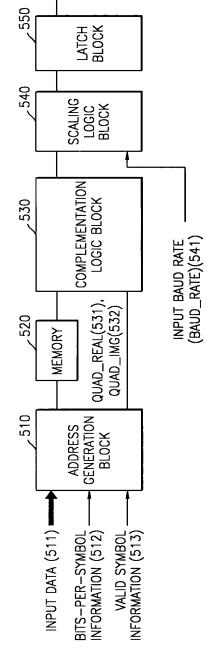


FIG. 5

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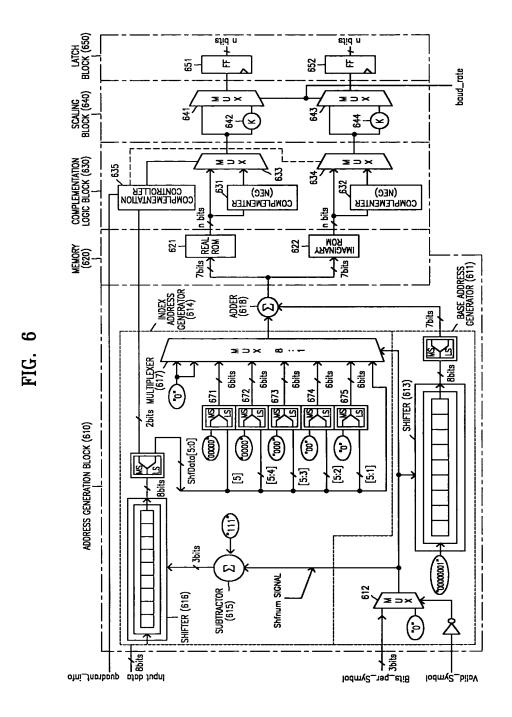


FIG. 7

Bits-per-Symbol	VALID INPUT DATA BITS 7th -> 0th bit (X: not valid)
"000"	"XXXXXXXX"
"001"	"XXXXXXXOO"
"010"	"XXXXXXOOO"
"011"	"XXXX0000"
"100"	"XXX00000"
"101"	"XX000000"
"110"	"X0000000"
"111"	"00000000"

FIG. 8

address	ROM Data
0	zero symbol
11	qpsk r(0)
2	8-psk r(0)
3	8-psk r(1)
4	16-qam r(0)
5	16-qam r(1)
6	16-qam r(2)
7	16-qam r(3)
65	256-qam r(0)
66	256-qam r(1)
67	256-qam r(2)
127	256-qam r(63)

address	ROM Data
0	zero symbol
1	apsk I(0)
2 3	8-psk I(0)
	8-psk I(1)
4	16-qam I(0)
5	16-qam I(1)
6	16-qam I(2)
7	16-qam I(3)
65	256-qam I(0)
66	256-qam (1)
67	256-qam I(2)
127	256-qam I(63)

FIG. 9

Bits-per-Symbol	VALID INPUT DATA BITS 7th -> 0th bit (X: not valid)	Shfnum	INPUT DATA SHIFTED BY AS MUCH AS 7—Shfnum (X: not valid)
"000"	"XXXXXXXX"	0	"00000000"
"001"	"XXXXXXQQ"	1	"QQ000000"
"010"	"XXXXXQQB"	2	"QQB00000"
"011"	"XXXXQQBB"	3	"QQBB0000"
"100"	"XXXQQBBB"	4	"QQBBB000"
"101"	"XXQQBBBB"	5	"QQBBBB00"
"110"	"XQQBBBBB"	6	"QQBBBBBO"
"111"	"QQBBBBBB"	7	"QQBBBBBB"

FIG. 10A

S1=qi1, S0=qr0

QUARDANT	qi1	qr0	S1	S0
ı	0	0	+	+
II	0	1	ı	+
III	1	1	-	_
IV	1	0	+	_

FIG. 10B

S1=qi1, S0=qr0'

QUARDANT	qi1	qr0	S1	S0
1	0	0	+	-
11	0	1	+	+
III	1	1	_	+
IV	1	0	_	_

FIG. 10C

QUARDANT	qi1	qr0	S1	S0
I	0	0	ł	1
II	0	1	_	+
III	1	1	+	+
IV	1	0	+	_

FIG. 10D

QUARDANT	qi1	qr0	S1	S0
I	0	0	•	+
- 11	0	1	-	_
III	1	1	+	_
IV	1	0	+	+

FIG. 11

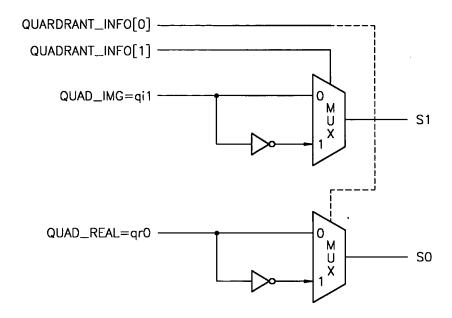


FIG. 12

